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**GREENBLUM &
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FAX MSG NO. P20380.F15.doc PAGE 1 of 15

SENDING FAX NO.: 703-716-1180*******CONFIDENTIALITY NOTE*******

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CALLED TEL. NO.: 571-273-8300 *BF pnc*

TO : U.S. Patent and Trademark Office
ATTN : Examiner: Dr. Hugh Jones
FROM : Greenblum & Bernstein, P.L.C.
DATE : September 21, 2005
SUBJECT : U.S. Patent Application No. 09/818,505; entitled "Apparatus and Method for Multi-Part Setup Planning for Sheet Metal Bending Operations"; Our Ref: P20380

Dear Examiner Jones:

Further to our further telephone conversation of earlier today, we would like to thank you for your cooperation. Please find attached a signed copy of the Information Disclosure Statement (references of which are not attached) filed with the U.S. Patent and Trademark Office on July 16, 2001, as well as a copy of the PTO-1449 form, and a Date Stamped receipt evidencing filing of the same.

Please give us a call at your earliest convenience, if you need to discuss this matter further.

Best regards.

Bruce H. Bernstein/Bill Pieprz

Enclosures: Information Disclosure Statement (filed July 16, 2001)
Date Stamped Receipt
PTO-1449 Form

GREENBLUM & BERNSTEIN, P.L.C.
Intellectual Property Causes
1941 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

7/13/2001

File In: Mailroom

The Patent Office Date stamp hereon is an acknowledgement that, on the date indicated, the Patent Office received the following:

- | | |
|---|--|
| <p>(X) Amendment <u>Preliminary</u>
() Executed Assignment and cover letter
 () by facsimile
() Executed S.E.S. () S.E.S. Assertion
() Req. for Ext. of Time
() Fee Filing ()
 Recording ()
 Issue ()
 Extension ()
() Fee Transmittal
() Maintenance Fee Payment
() PTOL-85B Issue Fee
() Letter to Draftsman
() Design Patent Application Transmittal
() Utility Patent Application Transmittal
() Provisional Application Cover Sheet
() Continued Prosecution Application
 (CPA) Request Transmittal
() Request for Continued Examination (RCE)
 including Submission
() Cover Letter
() Check No. for \$
() Rule 53b and 53f Letter for
 Unexecuted Application</p> | <p>() Claim of Priority & Certified
 Copy of _____
() Declaration () Supplemental
 () New () Unexecuted
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(X) Transmittal Letter
() Patent Application
 () Provisional () Reexam
 () Reissue () Design
 () Continuation () CIP
 _____ pages (w/abstract)
 _____ claims _____ independent
 _____ sheets of drawings
 _____ figures
(X) I.D.S. form PTO-1449 &
 References () as attached
 (X) as listed on
 reverse
() One self-addressed postcard
() Certification under 1.97(e)
() Certificate of Mailing (C-O-M)
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|---|--|



In the matter of : APPARATUS AND METHOD FOR MULTI-PART SETUP PLANNING FOR
SHEET METAL BENDING OPERATIONS

Applicant : Satyandra Kumar GUPTA *
David Alan BOURNE

Application No. : 09/818,505

Filed : 3/28/2001

Patent No. :

Issued :

Docket : P20380 IMP

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P20380.A01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : S. K. GUPTA et al.

Group Art Unit: 2123

Appl. No. : 09/818,505

Examiner: Not Yet Known

Filed : March 28, 2001

For : APPARATUS AND METHOD FOR MULTI-PART SETUP PLANNING
FOR SHEET METAL BENDING OPERATIONS

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure under 37 C.F.R. 1.56 and 1.97-1.98, Applicants hereby call the following documents to the Examiner's attention.

Each of the following documents was cited, and copies submitted, together with a Information Disclosure Statement, or were cited by the Examiner in the parent application of 08/927,291 of which the present application claims an early effective filing date in accordance with 35 U.S.C. 120. Therefore, copies of these documents are not attached hereto.

U.S. Patent No. 5,642,291 to PRUNOTTO et al., issued June 24, 1997;

U.S. Patent No. 5,187,958 to PRUNOTTO et al., issued February 23, 1998; and

U.S. Patent No. 5,297,054 to KIENZLE et al., issued March 22, 1994.

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The following documents are cited in the specification of the present application:

"Flexible Manufacturing Cells and Systems" by LUGGEN, published 1991, cited at page 5 of the specification;

"Flexible Manufacturing Systems: The Technology and Management" by MALEKI, published 1991, cited at page 5 of the specification;

"Group Technology: Foundations for Competitive Manufacturing" by SNEAD, published 1989, cited at page 5 of the specification;

"Fundamentals of Modern Manufacturing: Materials, Processes and Systems" by GROOVER, published 1996, cited at page 5 of the specification;

A Robotics Institute Technical Report by STEWART, entitled "CHIMERA II: A Real-Time UNIX-Compatible Multiprocessor Operating System For Sensor Based Control Applications", published 1989, cited at page 39 of the specification; and

"Boolean Set Operations On Non-Manifold Boundary Representation Objects" by GURSOZ, published January 1991, cited at page 40 of the specification.

Copies of the above-noted non-patent documents are not attached, but will be filed in the form of a Supplemental Information Disclosure Statement as soon as they become available.

The following documents were cited as co-pending patent applications in the parent application. In order to complete the record, Applicants are citing (and supplying copies of)

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the issued patents in the present application, as well as the corresponding patent application numbers.

U.S. Patent No. 5,864,482 to HAZAMA et al., issued January 26, 1999, corresponds to U.S. Patent Application 08/690,084 as well as U.S. Provisional Application No. 60/016,958;

U.S. Patent No. 5,822,207 to HAZAMA et al., issued October 13, 1998, corresponds to U.S. Patent Application 08/706,830 as well as U.S. Provisional Application No. 60/016,958;

U.S. Patent No. 5,835,684 to BOURNE et al., issued November 10, 1998, corresponds to U.S. Patent Application 08/338,115;

U.S. Patent No. 5,969,973 to BOURNE et al., issued October 19, 1999, corresponds to U.S. Patent Application 08/386,369; and

U.S. Patent No. 5,828,575 to SAKAI, issued October 27, 1998, corresponds to U.S. Patent Application 08/688,860, entitled "Apparatus and Method for Managing and Distributing Design and Manufacturing Information Throughout A Sheet Metal Production Facility", based upon U.S. Provisional Application No. 60/016,958, which was filed on May 6, 1996.

The documents listed below were cited in various of the above-noted U.S. Patent Applications that were copending with the parent application, all of such applications having since issued as patents, as noted above. Further, consideration of the documents listed below

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was confirmed by the U.S. Patent and Trademark Office on a Form 1449 attached to an Official Action issued September 29, 1999 in the parent to the present application.

The following documents were cited/referred to in U.S. Patent No. 5,864,482:

AMADA WINDOWS UNFOLD: Manual for CADKEY, Table of Contents, pp. 1-35, and Index, U.S. Amada, Ltd., Buena Park, CA (November 1995);

KOKO et al., U.S. Patent No. 5,434,791;

CONRADSON et al., European patent Publication No. 0,419,013;

WRIGHT et al., U.S. Patent No. 5,453,933;

ROLLER, European Patent Publication No. 0,397,904;

LECLAIR et al., U.S. Patent No. 5,485,390;

WATANABE et al., U.S. Patent No. 5,115,400;

LEE et al., U.S. Patent No. 5,089,970;

WAKAHARA et al., U.S. Patent No. 5,029,462; and

SEKI et al., European Patent Publication No. 0,402,475.

The following materials are cited in U.S. Patent No. 5,835,684:

BOURNE, David A., "Intelligent Manufacturing Workstations", which appeared in Knowledge-Based Automation of Processes, Session at the 1992 ASME Winter Annual Meeting (November 1992);

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WANG, Cheng-Hua, "A Parallel Design System For Sheet Metal Parts", Mechanical Engineering Report, presented at the Mechanical Engineering Department, Carnegie Mellon University, Pittsburgh, PA (May 1992);

TROVATO et al., U.S. Patent No. 5,083,256; and

KONDO, U.S. Patent No. 5,047,916.

The following materials are cited in U.S. Patent No. 5,828,575:

CONRADSON et al., U.S. Patent No. 5,587,914; and

WYSONG Literature, The Perfect Forming Touch: New PH PLUS Series, DNC Press Brakes, Cat. PHP-1, Wysong and Miles Company, Greensboro, NC (1993).

The following documents are cited in U.S. Patent No. 5,969,973 and/or U.S. Patent No. 5,835,684:

AOYAMA et al., U.S. Patent No. 4,912,644;

PRUNOTTO et al., U.S. Patent No. 5,287,433;

KONDO, European Patent Publication No. 0,335,314;

JONES et al., European Patent Publication No. 0,355,454;

CONRADSON et al., U.S. Patent No. 5,307,282;

BOURNE et al., David A., "Feature Exchange Language Programmer's Guide", Robotics Institute, Carnegie Mellon University (January 1994);

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BOURNE et al., David A., "Using The Feature Exchange Language In The Next Generation Controller", Technical Report CMU-RI-TR-90-19, The Robotics Institute, Carnegie Mellon University (August 1990); and

BOURNE et al., David A., "The Operational Feature Exchange Language", Technical Report CMU-RI-TR-90-06, The Robotics Institute, Carnegie Mellon University (March 1990).

The following documents are cited in U.S. Patent No. 5,822,207:

SARTORIO et al., U.S. Patent No. 5,005,394;

KAUFFMAN et al., U.S. Patent No. 5,315,522;

ULRICH et al., U.S. Patent No. 5,396,265;

AMACOM: AP40 Literature, Version 4, Amada Company, Ltd. Japan (July 1996).

This document summarizes the capabilities of the AP40 CAD/CAM system, including the capability of folding and unfolding 2-D and 3-D model representations of the part, face detection, face joining and displaying dimension information relating to the part;

AMACOM: AP60 Literature, Amada Company, Ltd. Japan (July 1996). This document summarizes the capabilities of the AP60 CAD/CAM system, including the capability of unfolding a 3-D model representation into a 2-D model representation of a part, collision simulation, face detection, face joining and displaying dimension information relating to the part;

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AMACOM: AP200 Literature, Amada Company, Ltd. Japan (July 1996). This document summarizes the capabilities of the AP200 CAD system, including the capability of developing a 3-D model representation of a part from 2-D, multiple view representations of the part, and unfolding a 3-D model representation to develop a 2-D, flat representation of the part; and

"Bending Soft", Literature on the AMACOM AP40, No. 9112-01, Amada Company, Ltd., Japan (Publication Date Unknown). This document summarizes the capabilities of the AP40 CAD/CAM system, including the capability of unfolding a 3-D model representation to develop a 2-D, flat representation of a part, displaying multiple representations of the part, defining bend lines of the part through a graphical user interface, automatic bend sequence selection, tooling selection and staging, simulating the bend sequence, and automatic development of the NC bend data.

The following documents were cited by the Examiner during prosecution of the above noted parent application:

U.S. Patent No. 5,822,207, to HAZAMA et al.;

U.S. Patent No. 4,888,692, to GUPTA et al.;

U.S. Patent No. 5,432,887, to KHAW;

U.S. Patent No. 5,971,585, to DANGAT et al.,

NUMAO et al., "Scheplan- a scheduling expert for steel-making process", IEEE AI '88, pages 467-472;

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UCKUN et al., "Managing genetic search in job shop scheduling", IEEE Expert, pages 15-24;

GOPALAKRISHNAN et al., "Product design for manufacturing: the use of knowledge based systems in concurrent engineering", IEEE Int. Conf. Systems, Man and Cybernetics, pages 566-568;

JAIN et al., "Expert Simulation for on-line scheduling", IEEE 1989 Winter Sim. Conf., pages 930-935;

NOMURA et al., "A heuristics guided scheduling framework for domains with complex conditions", IEEE 6th Int. Conf. Tools Art. Intell., pages 752-755;

ARBON et al., "Auto-MPS: 'an automated master production scheduling system for large volume manufacturing", IEEE 10th Conf. Art. Intell. Applicat., pages 26-32;

LEVNER et al., "A tandem expert system for batch scheduling in a CIM system based on group technology concepts", 95 INRIA/IEEE Symp. Emerg. Tech. And Factory Automat., pages 667-674;

NIEW et al., "Knowledge based master production scheduler", IEEE 1st Conf. Expert Planning Sys., pages 88-93;

READDIE, "A prototype AI-based tool for production scheduling", IEE Coll. Art. Intell. in Planning for Product. Control, pages 2/1-2/4;

OHKURA et al., "Semiconductor process line scheduling expert system", IEEE/UCS/SEMI Int. Symp. Semi. Manufact., pages 89-92;

P20380.A01

TOMASTIK et al., "Optimization-based scheduling of flexible manufacturing system for apparel production", 34th IEEE Conf. Decision and Control, pages 3152-3157.

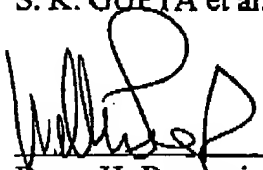
Each of the documents listed herein has been listed on a PTO-1449 Form which is attached hereto. As noted above, copies of the patents that have issued from copending applications cited in the parent application are enclosed. In accordance with 37 CFR 1.98(d) copies of the other documents are not being submitted herewith. The non-patent documents cited in the specification of the present application are not presently available to Applicants. Accordingly, the Examiner is requested to initial the appropriate spaces on the attached PTO-1449 Form and to return a copy of the Form to the Applicants with the next official communication in the present application to confirm consideration of these documents

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully submitted,
S. K. GUPTA et al.

William Piepitz
Reg. No. 33,630

9-21-05


Bruce H. Bernstein
Reg. No. 29,027

July 13, 2001
GREENBLUM & BERNSTEIN, P.L.C.
1941 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

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Sheet 1 of 4

Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P20380		Serial No. 09/818,505						
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant S.K. GUPTA et al.								
				Filing Date March 28, 2001		Group 2123						
U.S. PATENT DOCUMENTS												
EXAMINER INITIAL	DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5	6	4	2	2	9	1	06/24/97	PRUNOTTO et al.			
	5	1	8	7	9	5	8	02/23/98	PRUNOTTO et al.			
	5	2	9	7	0	5	4	03/22/94	KIENZLE et al.			
	5	8	6	4	4	8	2	01/26/99	HAZAMA et al.			
	5	8	2	2	2	0	7	10/13/98	HAZAMA et al.			
	5	8	3	5	6	8	4	11/10/98	BOURNE et al.			
	5	9	6	9	9	7	3	10/19/99	BOURNE et al.			
	5	8	2	8	5	7	5	10/27/98	SAKAO			
	5	4	3	4	7	9	1	07/18/95	KOKO et al.			
	5	4	5	3	9	3	3	09/26/95	WRIGHT et al.			
	5	4	8	5	3	9	0	01/16/96	LECLAIR et al.			
	5	1	1	5	4	0	0	05/19/92	WATANABE et al.			
	5	0	8	9	9	7	0	02/18/92	LEE et al.			
	5	0	2	9	4	6	2	07/09/91	WAKAHARA et al.			
	5	0	8	3	2	5	6	01/21/92	TROVATO et al.			
	5	0	4	7	9	1	6	09/10/91	KONDO			
	5	5	8	7	9	1	4	12/24/96	CONRADSON et al.			
	4	9	1	2	6	4	4	03/27/90	AOYAMA et al.			
	5	2	8	7	4	3	3	02/15/94	PRINOTTO et al.			
	5	3	0	7	2	8	2	04/26/94	CONRADSON et al.			
	5	0	0	5	3	9	4	04/09/91	SARTORIO et al.			
	5	3	1	5	5	2	2	05/24/94	KAUFFMAN et al.			
	5	3	9	6	2	6	5	03/07/95	ULRICH et al.			
	4	8	8	8	6	9	2	12/1989	GUPTA et al.			
	5	4	3	2	8	8	7	07/1995	KHAW			
EXAMINER								DATE CONSIDERED				
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.												

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Sheet 2 of 4

Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P20380		Serial No. 09/818,505		
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				Filing Date March 28, 2001		Group 2123		
U.S. PATENT DOCUMENTS								
EXAMINER INITIAL	DOCUMENT NUMBER			DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5 9 7 1 5 8 5			12/1989	DANGAT et al.			
FOREIGN PATENT DOCUMENTS								
	DOCUMENT NUMBER			DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	0 4 1 9 0 1 3			03/27/91	E.P.O.			
	0 3 9 7 9 0 4			11/22/90	E.P.O.			
	0 4 0 2 4 7 5			12/19/90	E.P.O.			
	0 3 3 5 3 1 4			10/04/89	E.P.O.			
	0 3 5 5 4 5 4			02/28/90	E.P.O.			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)								
	1 "Flexible Manufacturing Cells and Systems" by LUGGEN, published 1991.							
	2 "Flexible Manufacturing Systems: The Technology and Management" by MALEKI, published 1991.							
	3 "Group Technology: Foundations for Competitive Manufacturing" by SNEAD, published 1989.							
	4 "Fundamentals of Modern Manufacturing: Materials, Processes and Systems" by GROOVER, published 1996.							
	5 A Robotics Institute Technical Report by STEWART, entitled "CHIMERA II: A Real-Time UNIX-Compatible Multiprocessor Operating System For Sensor Based Control Applications", published 1989.							
	6 "Boolean Set Operations On Non-Manifold Boundary Representation Objects" by GURSOZ, published January 1991.							
	7 <u>AMADA WINDOWS UNFOLD: Manual for CADKEY</u> , Table of Contents, pp. 1-35, and Index, U.S. Amada, Ltd., Buena Park, CA (November 1995).							
	8 BOURNE, David A., "Intelligent Manufacturing Workstations", which appeared in <u>Knowledge-Based Automation of Processes</u> , Session at the 1992 ASME Winter Annual Meeting (November 1992).							
	9 WANG, Cheng-Hua, "A Parallel Design System For Sheet Metal Parts", <u>Mechanical Engineering Report</u> , presented at the Mechanical Engineering Department, Carnegie Mellon University, Pittsburgh, PA (May 1992).							
EXAMINER				DATE CONSIDERED				
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Sheet 3 of 4

Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P20380	Serial No. 09/818,505
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				Filing Date March 28, 2001	Group 2123
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
	1	0	WYSONG Literature, <u>The Perfect Forming Touch: New PH PLUS Series</u> , DNC Press Brakes, Cat. PHP-1, Wysong and Miles Company, Greensboro, NC (1993).		
	1	1	BOURNE et al., David A., "Feature Exchange Language Programmer's Guide", Robotics Institute, Carnegie Mellon University (January 1994).		
	1	2	BOURNE et al., David A., "Using The Feature Exchange Language In The Next Generation Controller", <u>Technical Report CMU-RI-TR-90-12</u> , The Robotics Institute, Carnegie Mellon University (August 1990).		
	1	3	BOURNE et al., David A., "The Operational Feature Exchange Language", <u>Technical Report CMU-RI-TR-90-06</u> , The Robotics Institute, Carnegie Mellon University (March 1990).		
	1	4	<u>AMACOM: AP40 Literature</u> , Version 4, Amada Company, Ltd. Japan (July 1996).		
	1	5	<u>AMACOM: AP60 Literature</u> , Amada Company, Ltd. Japan (July 1996).		
	1	6	<u>AMACOM: AP200 Literature</u> , Amada Company, Ltd. Japan (July 1996).		
	1	7	"Bending Soft", <u>Literature on the AMACOM AP40</u> , No. 9112-01, Amada Company, Ltd., Japan (Publication Date Unknown).		
	1	8	NUMAO et al., "Scheplan- a scheduling expert for steel-making process", IEEE AI '88, pages 467-472.		
	1	9	UCKUN et al., "Managing genetic search in job shop scheduling", IEEE Expert, pages 15-24.		
	2	0	GOPALAKRISHNAN et al., "Product design for manufacturing: the use of knowledge based systems in concurrent engineering", IEEE Int. Conf. Systems, Man and Cybernetics, pages 566-568.		
	2	1	JAIN et al., "Expert Simulation for on-line scheduling", IEEE 1989 Winter Sim. Conf., pages 930-935.		
	2	2	NOMURA et al., "A heuristics guided scheduling framework for domains with complex conditions", IEEE 6th Int. Conf. Tools Art. Intell., pages 752-755.		
	2	3	ARBON et al., "Auto-MPS: 'an automated master production scheduling system for large volume manufacturing", IEEE 10th Conf. Art. Intell. Applicat., pages 26-32.		
	2	5	LEVNER et al., "A tandem expert system for batch scheduling in a CIM system based on group technology concepts", 95 INRIA/IEEE Symp. Emerg. Tech. And Factory Automat., pages 667-674.		
	2	6	NIEW et al., "Knowledge based master production scheduler", IEEE 1st Conf. Expert Planning Sys., pages 88-93.		
EXAMINER			DATE CONSIDERED		
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					

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Sheet 4 of 4[illegible]